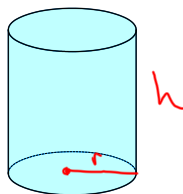


## 9-2 and 9-4 Surface Area and Volume of Cylinders



Perimeter of Circle = Circumference

Lateral Area

$$LA = p \times h$$

Surface Area

$$SA = LA + 2B$$

$$V = B \times h$$

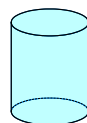
$$C = 2\pi r$$

$\pi d$

$$B = \pi r^2$$

$$r = 4\text{cm}$$

$$h = 9\text{cm}$$



Both  
answers

$$p = 2\pi r = 8\pi \approx 25.1\text{cm}$$

$$B = \pi r^2 = 16\pi \approx 50.3\text{cm}^2$$

$$LA = ph = 8\pi \cdot 9 = 72\pi \approx 226.2\text{cm}^2$$

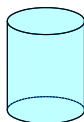
$$SA = LA + 2B = 72\pi + 2(16\pi) = 104\pi \approx 326.7\text{cm}^2$$

$72 + 32$

$$V = Bh = 16\pi \cdot 9 = 144\pi \approx 452.4\text{cm}^3$$

$$r = 3\text{cm}$$

$$h = 5\text{cm}$$



$$p = 2\pi r = \underline{6\pi} \approx \underline{18.8\text{ cm}}$$

$$B = \pi r^2 = \underline{9\pi} \approx \underline{28.3\text{ cm}^2}$$

$$LA = ph = 6\pi \cdot 5 = \underline{30\pi} \approx \underline{94.2\text{ cm}^2}$$

$$SA = LA + 2B = 30\pi + 2(9\pi) = \underline{48\pi} \approx \underline{150.8\text{ cm}^2}$$

$$V = Bh = 9\pi \cdot 5 = \underline{45\pi} \approx \underline{141.4\text{ cm}^3}$$

Do:

$$r = 10\text{cm}$$

$$h = 2\text{cm}$$



$$p = 2\pi r = \underline{20\pi} = \underline{62.8\text{ cm}}$$

$$B = \pi r^2 = \underline{100\pi}$$

$$LA = ph = 20\pi \cdot 2 = \underline{40\pi}$$

$$SA = 40\pi + 2(100\pi) = \underline{240\pi}$$

$$V = Bh = 100\pi \cdot 2 = \underline{200\pi}$$

Assignment:

p487-488

11-13, 24-26(Find p, B, LA, and SA)

p505-506

27-33, 39, 40